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ABSTRACT

Intended to assist Agency for International Development officers, advisors, and health officials in incorporating health planning into national plans for economic development, this eighth of ten manuals in the International Health Planning Methods series provides a methodology for conducting a study of health sector financing. It presents an action-tested procedure which may be used, with some local adaptations, to examine health sector financial resources. Chapter 1 introduces a logical, nontechnical approach to the gathering and evaluation of information on the financing of health. Chapters 2-5 guide users through the process: (1) determining the components of the health sector, (2) acquiring data on financing of the health sector, (3) evaluating the data, and (4) presenting and using the results of evaluations. (For successful completion of such an evaluation, it is anticipated that a senior-level economist or public finance specialist would be available to assist the analyst, both in initial design and final interpretation of the results.) Additional components making up approximately one-half of the manual are these appendixes: model (or suggested) tables for data collecton, a list of possible revenue sources, and a selected bibliography. (YLB)

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International Health Planning Methods Series

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Health Sector Financing in Developing Countries

Guidelines for Analysis of Health Sector Financing in Developing Countries

CE 024 235

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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Guidelines for Analysis of Health Sector Financing in Developing Countries

U.S. Department of Health, Education, and Welfare
Public Health Service
Office of the Assistant Secretary for Health
Office of International Health

This document was prepared for, and financed by, the Office of Health, Development Support Bureau, Agency for International Development by Robert Robertson and Dieter Zschock (Contract No. 282-76-0392 FS). All requests or inquiries about this manual should be addressed to Dr. Kenneth Farr, Project Officer, Office of International Health, 5600 Fishers Lane, Rockville, Maryland 20857.

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PREFACE TO THE SERIES

The International Health Planning Methods Series has been developed by the Office of International Health, Public Health Service on request of the Agency for International Development.

The series consists of ten basic volumes which cover a variety of health issues considered vital for effective development planning. These ten volumes are supplemented by six additional works in the International Health Reference Series, which list resource and reference material in the same subject areas.

The International Health Planning Methods Series is intended to assist health sector advisors, administrators and planners in countries where the Agency for International Development supports health related activities. Each manual attempts to be both a practical tool and a source book in a specialized area of concern. Contributors to these volumes are recognized authorities with many years of experience in specialized fields. Specific methods for collecting information and using it in the planning process are included in each manual.

The six supporting documents in the International Health Reference Series contain reports of listerature surveys and bibliographies in selected subject areas. These are intended for the serious researcher and are less appropriate for broad field distribution.

The volumes in the International Health Planning Methods Series contain the collective effort of dozens of experienced professionals who have contributed knowledge, research and organizational skills. Through this effort they hope to provide the AID field officer and his host country counterparts with a systematic approach to health planning in developing countries.

PREFACE

This manual is one in a series of methodological studies developed for the Office of International Health, U.S. Department of Health, Education, and Welfare, to foster health planning by host country personnel in less developed countries. It originally appeared in May, 1978 under the title "An Approach to the Study of Health Sector Financing in Developing Countries: A Manual." The present revised and updated version of the manual was completed in April, 1979.

This manual presents an action-tested procedure for appraisal of health sector financing which may be used, with some local adaptations, to examine health sector financial resources. The guidance presented in the text of the manual, combined with the prototype data collection and tabulation arrangement in Appendix A, are sufficiently detailed to lead a host country health planner or financial specialist through the assessment process. For successful completion of such an evaluation, it is anticipated that a senior-level economist or public finance specialist would be available to assist the analyst, both in initial design and final interpretation of the results.

This manual has been authored by Robert L. Robertson, Dieter K. Zschock and John A. Daly. It is primarily the result of extensive field research on sector financing questions in Latin America by Robertson and Zschock. Editing of the report into the present manual format was carried out, in part, by Office of International Health personnel.

In addition to helpful comments on this manual which were made by professionals in USAID, WHO, DHEW, and the private sector, substantial contributions were made by colleagues in the countries where case studies were conducted. Grateful acknowledgment is made to Rodolfo Heredia, Patricia Restrepo, Alejandro Vivas and Jesús Rico of Colombia; to Amiro Perez Mera of the Dominican Republic; to Raul Bejarano and Alberto Gumiel of Bolivia; and to Maria Luisa Hernandex de Alveno, Mario Ovalle, Guillermo Chavez, and Hugo Figueroa of Guatemala.

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CHAPTER I

INTRODUCTION

A. REASONS FOR STUDYING HEALTH SECTOR FINANCING

The fundamental goal of the health sector is to improve the health status of the nation's population. The introduction of modern health services in developing countries has resulted in progress toward this goal by reducing mortality and, in some cases, morbidity rates; but it has also increased the perceived need for further expansion of health services. Unfortunately, the need for health services exceeds the limited resources available to the health sector, especially in the developing world. This gap between the need for health services and the resources available to meet it can be filled by increasing the efficiency of the utilization of existing health resources, by increasing the funding of the health sector (perhaps accompanied by a reallocation of health services resources to areas of greatest need, for example, to primary health care), or by a combination of the two.

Better information on health finance and a systematic way to interpret it can be used in most nations to measure their resource gaps and to recommend and implement policies, contribute to health planning, and permit more effective management of programs for delivering services. While general economic conditions and specific institutions vary considerably among countries striving to close the need-resources gap, all of them must achieve--to one degree or another--objectives which concern health care finance. These objectives include determination of the appropriate level and sources of funding for health, containment of excessive increase in total health expenditure, coordination of different programs and systems of service delivery, promotion of efficient delivery of care, and improvement in the accessibility of services and the fairness among individuals and groups in the population in the effective use of them.[1]

This manual concentrates on the means of accumulating and evaluating certain financial data that are likely to be particularly helpful to policy-makers and others in quantifying their aims and judging the attainment of them. The general goal is to assist in making practical decisions, not to conduct studies for their own sake. Naturally, the conclusions reached will not be the same for all countries. The sources of health system funding are selected for special treatment in the manual, while expenditure patterns receive only secondary attention.

Measures to increase efficiency, although of obvious importance, are too varied and too demanding of space to be included in this manual and are better reserved for other publications. In order to focus on one area of considerable importance--measures to modify the sources of finance and to increase health sector income--it is necessary to omit some other aspects of "financing," such as: a) reasons for the employment of certain measures or means of revenues; b) the process of budgetary formulation and control; c) general social decision-making, especially for the financing of

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[1] These are commonly held objectives requiring little elaboration for health specialists. A good example of a document discussing them is: World Health Organization, Financing of Health Services: Report of a WHO Study Group (Geneva: WHO Technical Report Series 625, 1978).

health care; and d) expenditure analyses such as cost/benefit and cost/effectiveness studies.[2] Although expenditure analysis is excluded, suggestions for the description of expenditures are included, because of the great interest and convenience in identifying the sources and uses of funds together.

Before a country considers measures designed to increase revenues it is desirable to understand and assess the current system of financing the health sector. A study of the financing of the health sector should ascertain: 1) what resources are now being utilized to finance the health sector (i.e., level of funding and sources of funds); 2) how costly or inconvenient present revenues are to collect and how fairly this burden falls on the population; and 3) how financing can be organized to improve the efficiency of collection and equity of distribution of the financial burden, among other ends. Such a study may even indirectly indicate new sources of revenue that might be tapped to finance the health sector. Those new sources will not be revealed directly since the study will be primarily concerned with analyzing existing sources of revenue, but a comparison by the analyst of existing sources with other sources of revenue (such as those used in other sectors of the economy or in other countries) may reveal new means of financing the health sector.

B. THE GOAL AND ORGANIZATION OF THIS MANUAL

The goal of this manual is to provide a methodology which will enable an analyst with relatively little experience in health sector economic analysis to conduct a study of the financing of the health sector. However, for some of the more complex projects the analyst may require the assistance of a consultant who is from his own country or from another. The need for such help will depend on a nation's resources and on the scope and difficulty of the problem under study. It is possible that an outside consultant can be especially helpful in orienting the analyst to the information system indicated here--including on techniques of data collection--and in cooperating with him on the evaluation that follows. In any event, a visiting specialist should not be the director of the work; that is the responsibility of the country or agency requesting the study.

The methodology incorporated in this manual has been used as an integral analytical piece of a full-scale health sector assessment in one country.[3] As such it was intended to serve both as a training tool for economic analysts working in the sector and as a source of valuable information on the status of sector financing.

The most likely users of the manual now will be administrative and planning technicians of agencies in developing countries and the USAID program development staff who conduct studies for design and evaluation purposes. Although many of them

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[2]Other publications of the Office of International Health, USDHEW, have dealt with those aspects, or will be doing so in future work. For an example, see: J.D. Chassee, The Economic Appraisal of Health Projects in the Third World (Rockville, Md.: USDHEW, Office of International Health, n.d.).

[3]"Financing the Health Sector of Guatemala," Annex 5.9 to F.W. Schieck, et al. (eds.), Health Sector Assessment: Guatemala (Guatemala City: USAID Mission, November 1977).

will have expertise in either health care or economic analysis, that requirement is not necessary for the reader of this manual. Other potential readers are the superiors of those technicians who will make the decisions on the uses of the studies; they include higher level planners, administrators, and elected officials. Private as well as public sector representatives might use this manual to advantage.

Despite the references in the manual to the entire health sector of a country, many of its techniques are adaptable to subsectors or even to specific health programs. And they can be useful for the financial sections of USAID project papers as well. While a conscious effort has been made to avoid prescribing pat answers or solutions to financing questions, the manual should clarify for the analyst the choices available and the criteria to use in drawing conclusions and making recommendations.

This manual provides a logical, nontechnical approach to the gathering and evaluation of information on the financing of health. In doing so, it will guide users in answering these key questions:

1. What is the health sector? (Chapter II -- Determining the Components of the Health Sector)

2. What data should be gathered? How should they be arranged? What are the sources of those data? (Chapter III -- Acquiring Data on Financing of the Health Sector)

3. What do the data mean? (Chapter IV -- Evaluating the Data on Health Sector Financing)

4. What conclusions or recommendations can be made from an evaluation of the data? (Chapter V -- Presenting and Using the Results of Evaluations)

Additional components of this document are the following appendices: A) model (or suggested) tables for data collection; B) a list of possible revenue sources; and C) a selected bibliography of health sector financing literature. The bibliography is a reminder that no document is wholly new. In this manual there is a heavy reliance on a series of case studies in Latin America, and the publications resulting from, and even going beyond, them.[4] The results here, although based on research originally undertaken in Latin America, represent a framework of data collection and analysis which the authors believe can be applied in any region or country. However, the approach is more applicable to less-developed countries, which do not have the statistical data bases of the developed countries.[5]

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[4]See, especially, the following: D.K. Zschock, R.L. Robertson, and J.A. Daly, Health Sector Financing in Latin America: Conceptual Framework and Case Studies (Rockville, Md.: USDHEW, Office of International Health, December 1976); "Financing the Health Sector of Guatemala" (footnote 3); World Health Organization, Financing of Health Services: Report of a WHO Study Group (footnote 1), pp. 52-53, 102-108; D.K. Zschock, Health Care Financing in Developing Countries (Washington: American Public Health Association, 1979).

[5]After the first edition of this manual was issued, the WHO also distributed one aimed at any country: World Health Organization, Manual for Surveys of Health Financing (Geneva: WHO, Draft, November 23, 1978).

Although the bulk of the manual is devoted to an analysis of the sources of financing, a description of health sector expenditures has been included to provide a balanced picture. The funding (income) of health services is often closely related to the pattern of health service expenditures. Analysis of the two sides of the financial picture can be separated as is done, in effect, here through this manual's emphasis on income.

CHAPTER II

DETERMINING THE COMPONENTS OF THE HEALTH SECTOR

A. COMMONLY ACCEPTED COMPONENTS OF THE HEALTH SECTOR

The Health sector is roughly defined as those people and institutions which seek primarily to prevent, cure, or care for illness and injury. Commonly accepted elements of the health sector include the activities involved in the provision of medical and paramedical care to ambulatory and hospitalized patients, communicable disease control, and environmental sanitation activities. The general definition of the health sector is intuitively obvious. For the financing to be described and analyzed, however, a more precise definition must be made. Since the frontiers of the health sector are drawn differently from country to country, the analyst should write an explicit statement of the health sector components. This statement should be agreed to by responsible officials before resources are used to describe or analyze the patterns of financing.

A precise and practical delineation of the health sector is difficult because many activities affect health in addition to those listed above. Therefore, deciding what to include in the health sector is necessarily arbitrary. The choice in many instances may be determined by the fact that some of these borderline activities are now being performed by health practitioners or by agencies involved in other, more obvious health activities, and therefore ease of accounting and the structure of the available data make it more practical to include, rather than exclude, them from the health sector. (For example, see family planning below.) Obviously, there will be differences of opinion on these issues.[6]

B. AREAS OF UNCERTAINTY

One of the uncertain areas concerning the boundaries of the health sector is family planning. Family planning programs range from demographic studies to birth control programs. They can have a long-term impact on health, and are often linked with medical care. One way to handle this classification problem is to include in the health sector those family planning programs which are conducted by health practitioners or by agencies providing health services and to exclude those performed by non-health service agencies. However, the answer to the question of which programs to include in the health sector undoubtedly will vary from country to country.

Other areas impacting on health whose coverage is uncertain include programs to improve nutrition, sewage disposal, and water supply. These programs are not treated consistently in all studies of the health sector, but the general practice is to include in the health sector those activities which are intended to bring underprivileged members of the population up to minimally adequate standards. Thus, special

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[6] For another viewpoint, see: World Health Organization (footnote 1), pp. 32-39.

food programs (food fortification, feeding, and iodization), nutrition rehabilitation, and the provision of potable water and human excrement disposal facilities in rural areas and urban slums are frequently considered to lie in the health sector. Thus, they would be studied if possible.

Certain other activities affecting health are generally not considered to be part of the health sector. These include general education, programs to provide clothing and shelter, accident prevention measures, and programs designed to improve working conditions.

C. ACCOUNTING PROBLEMS

The financing of health-related education programs and the education of health practitioners present accounting problems--i.e., should these activities be included in the health sector or in the education sector? This dilemma is conventionally resolved by including the costs of health-related education programs and of the training of health practitioners in the health sector if they are carried out by or paid for by recognized health sector institutions. The formal education of most health service practitioners, however, usually is included in the budgets of the public, private, and mixed education institutions and is thus excluded from the health sector. Specific health-related programs provided by non-health sector institutions, such as the regular school system and vocational training centers generally are not counted as part of the health sector, although they could logically be included there. If such programs are unusually extensive and closely coordinated with other health sector programs, one might consider counting them as health activities.

When analyzing the health sector it is important to avoid double counting of sources of support and of expenditures. There are several areas where double counting may cause a problem. One area is the costs of buildings. These costs may be counted either as investment costs or in terms of depreciation, depending on how the buildings are financed and how records are kept. Customarily, the investment cost is counted as a health sector expenditure. Another area of possible double counting is the education of health practitioners. Some consider it double counting to include both the costs of their formal education (a form of investment) and their subsequent salaries (a return on that investment) as health sector costs. For that reason formal educational costs may be excluded from the health sector; it might be wiser, however, to provide financial estimates with and without such values. Another example of a potential for double counting is expenditures on pharmaceuticals. Purchases of drugs and medicines by households may appear in household expenditure totals and also as pharmaceutical company revenues; they should not both be counted. A more likely and more serious possible example of double counting arises when revenues are totaled by various levels of an organization. For example, one might erroneously count Ministry of Health funds at the national level plus regional MOH revenues -- part of which have originated at the national level.

D. ORDERING OF HEALTH SECTOR COMPONENTS

The health sector can be examined from many different points of view, including by types of organization, by functions or programs, and by levels of authority.

1. By Organization

A suggested breakdown of organizations is public, mixed (or decentralized), and private. It is followed in the data collection system of this manual. Public

organizations consist of public health agencies, such as the Ministry of Health and its dependencies, some of which may be semiautonomous. Mixed organizations are those which receive part of their revenue from public sources and part from membership or participatory contributions. They are organizations like social security health care systems. The mixed organizations often function under the supervision of authorities other than the Ministry of Health. The final category of organizations includes profit and non-profit private bodies, such as private practitioners and hospitals, foundations, charities, the Red Cross, and private health insurance institutions.

2. By Function and Program

Another way to look at the health sector is in terms of functions and programs. The two major categories under a functional breakdown would be curative health (measures which treat illnesses and injuries as they arise) and preventive health (measures which are designed to keep illnesses and injuries from occurring). Under each of these major categories financing data can be arranged by major programs. For example, programs supporting hospitals and most of the activities of their staffs would come under the curative health category, while activities, such as immunization programs and those nutrition programs (except for nutrition rehabilitation measures) which are considered to be part of the health sector, would be categorized as preventive. Alternatively, the health sector could be divided into a number of high priority programs. Such a division would normally include the most important curative and preventive functions. Programs in some cases will be directly related to special diseases, like malaria, or to identifiable problems, like industrial accidents.

3. By Level of Authority

Another way to analyze the health sector is by levels of authority (that is, national, regional, state, and municipal or local). The national level is usually the most significant level (and, therefore, the best place to start), because it contains agencies and institutions having the largest size and most widespread coverage (for example, a Ministry of Health and its subagencies) and because it generally has the most complete data base. Examination of regional or state and municipal (local) level organizations can provide additional insights into health sector financing by answering such questions as: How do they fit in with the national organizations? What is their relative importance for health sector financing compared to the national organizations? What are the financial relationships and flows of funds between the various levels? To what degree are the subnational levels self-financing? And what population groups (such as rural residents) receive or pay more of the funds for health care?

4. Relationships Among the Three Orders

The three alternative methods of ordering the health sector components discussed above (by type of organization, by function and program, and by level of authority) need not be exclusive. In fact all three can be used together. To illustrate, the health sector could be divided first by type of organization (for example, public--Ministry of Health), and within each type of organization further divided into functions and programs (e.g., Ministry of Health programs to support hospitals as curative health measures), and even further divided by levels of authority (e.g., national, state, and local programs sponsored by the Ministry

of Health to support hospitals, perhaps even targeted to specific groups like those in a certain low income area). In addition, the three methods of breaking down the health sector can be used separately to crosscheck each other to ensure accuracy of data, to avoid double counting, and to identify duplication of services.

CHAPTER III

ACQUIRING DATA ON FINANCING THE HEALTH SECTOR

A. GENERAL

Since the needs of the health sector in the developing countries exceed the available resources, analysis of the sources of financing can be of value in determining such things as: what the present resources are (that is, level of fundings and sources of funding); how costly or inconvenient they are to collect; how the taxes, fees, and charges used to finance the health sector can be more equitably borne by its users; how existing sources affect the health system and the economy; and possibly, what additional sources of revenue are available. In order to conduct this type of analysis, however, one must have sufficient data. Low cost means of collecting financial data are indicated, along with more ambitious supplemental work, in this chapter.

The collection of detailed information on the source of health financing requires a standard set of tables for the organization of data. A set of model tables which serve that purpose are attached as Appendix A and will be referred to in later sections of this manual. (A list of them can be found on the title page of that appendix.)[7] These tables will need to be adapted to the specific organizational characteristics and circumstances of a particular country's health sector and to the desired scope of the study.

Information on financial resources by source should be gathered for a number of years (preferably at least five) in order to identify trends in the increase of funds and changes in their composition. Data series might also be projected into the future depending on the availability of official statements of intent (such as national and sector plans, previous assessments, and international loan applications) or other reasonable bases for estimation. Some projections might be based on intent (or "needs"), while others could be determined by simple extrapolation of trends. Projections, however, are not always easily or reliably made, and should be considered optional features of the data system for most purposes. To do them well will require extra efforts, the results of which inevitably will carry a fairly wide margin of error.[8]

Since the largest sources and institutions account for most of the public and mixed sector health services' financing, one obviously would begin the financing study with

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[7] It should be noted that such presentations are not unique. Details on comparative health expenditures can be seen, for example, in: World Bank, Health: Sector Policy Paper (Washington: World Bank, 1975); Organization for Economic Co-operation and Development, Public Expenditure on Health (Paris: OECD, 1977); World Health Organization (footnote 1), annexes. Sources with examples of filled in tables from the data system of this manual are: "Financing the Health Sector of Guatemala" (footnote 3); Zschock, Robertson, and Daly (footnote 4).

[8] "Financing the Health Sector of Guatemala" (footnote 3), pp. 39-40.

these and would proceed to a sufficiently large number of smaller entities as time and staff assistance permit. Nevertheless, some attention should be paid initially to these smaller entities to determine if, collectively, a group of them might represent a significant share of total financial support of the health sector.

B. ORGANIZATION OF DATA

The data necessary for a financing study of the health sector can be divided into two major classifications: data relating to income and data relating to expenditures. Within each of these major classifications the data can be organized in a series of subclassifications. These methods of ordering or arranging the data will be explored below.

1. Sources of Income

Health sector income can be analyzed by: organizations that provide health services or collect revenues; type of control of service organizations, a comparison of proposed, allocated, and actually received revenues by an organization; or major types of revenues.

a. Type of organization in terms of source of funds:

This method of categorizing the data provides one way to organize and look at the information. The method calls for the arrangement of the data by the sources of financial support of organizations. These organizations are of three types: 1) non-health organizations which only collect and transmit funds to the health sector, for example, the Treasury or Ministry of Finance, which collects money and allocates it to the Ministry of Health; 2) organizations which provide health services but do not raise most of their own funds, e.g., the Ministry of Health and its subordinates which are supplied funds by the Treasury or Ministry of Finance; 3) organizations which provide health services and raise most of their funds, e.g., the social security system. (See Appendix A: Table 1 for type 1 and Table 2 for types 2 and 3).

b. Type of control of service organization:

The second and perhaps the easiest way is to determine the sources of control of health service organizations. Since the three types of organizations providing health services (public, mixed, and private) generally have different sources and methods of financing, it would be useful to arrange the data groups into these three major categories and discuss substantial individual organizations within each category. (See Appendix A, Tables 1 and 2 for individual organizations.) For example, in the public health sector there would be a discussion of the sources of financing of the Ministry of Health; in the "mixed" sector, a discussion of the sources for the social security system; and in the private sector, a discussion of the sources of financing of privately owned hospitals.

Summaries of all or selected organizations' income, divided by type of control, also should be covered. (See Tables 3-5).

c. Comparison of income proposed, allocated, and actually received:

The data gathered on the types of organizations described above should include proposed (or requested), allocated, and executed budgets, for the current year and for the recent past, say, the last five or ten years. To be able to assess the allocation pattern of general tax revenues to the health sector it is important to distinguish between requested and allocated funds. However, this is at times difficult since available official documents do not always clearly show the difference. Moreover, it is almost impossible to determine what proportion of allocated funds are actually expended. Funds may have been allocated, but when the revenue collected during the year fell short of expectations, the health sector had to accept a shortfall in the disbursement of funds (along with other sectors, but perhaps not on a proportional basis). Whenever possible in the financial analysis, executed rather than budgeted data should be used. (Comparisons of the two are provided for in Table I2).

d. Type of revenue:

Income data of the kind identified above can be categorized by type of revenue--the taxes, fees, charges, loans, payments, and others which finance the health sector. These revenues fall into the following categories: 1) general public revenues; 2) deficit financing; 3) insurance revenues; 4) special tax revenues, and revenues from lotteries and betting, some or all of which are allocated directly to the health sector; 5) charitable and private contributions; 6) direct payments by recipients; and 7) in-kind contributions of goods and services. Each of these is spelled out below and also summarized--together with additional sources of funds--in Appendix B. One of those other sources warranting special mention is transfers to service organizations from other entities, usually other agencies or levels of government. Although no special table is proposed in Appendix A for transfers, it is possible that such a tabulation might be added to some studies for certain large organizations, such as the Ministry of Health.

General public revenues consist of income and profit taxes and import and export taxes or duties. (Sales and use taxes are generally dedicated to specific types of expenditures and, therefore, are discussed below). General tax revenues are collected by the national, state or municipal treasury, and a proportion of them is then allocated to the health sector. Since the impact of the various general revenue taxes is different, it is important to identify and analyze each major component of general revenues in the analysis that follows the collection of data.

In addition to taxes and duties in income, profits, and foreign trade, revenues also may be obtained through deficit financing. Deficit financing consists of foreign borrowing, and domestic borrowing, also called internal deficit financing. Internal deficit financing, in principle, is used primarily for investment in physical plant and equipment, but frequently is used also to cover a portion of operating costs.

Foreign borrowing, the other component of deficit financing, consists of general loans, part of which the health sector received, and loans specifically contracted for the sector. International loans are often used to finance the foreign exchange cost of equipment and supplies for public health

services. Here again, however, the intent may be broadly interpreted to specify that--with or without the lender's agreement--domestic program costs may be financed in part through foreign loan receipts (with the foreign exchange receipts of a loan instead being used in part for non-health related purchases). Deficit financing usually is regarded as a means to increase public health financing in proportion to other public expenditures. Foreign aid loans, however, also come with a requirement to increase the allocation of general revenues on a so-called counterpart basis. To fulfill this requirement the host (recipient) government may reallocate funds within the health sector to cover a particular program obligation, rather than increase the level of domestic funding to the sector. Thus, the impact of deficit financing on the allocational patterns of general and other categories of revenues is extremely difficult to evaluate. Foreign loans may be also considered in another category of health sector financing. When combined with grants from foreign countries they form the category of "external assistance." Although there is no model table for external assistance alone, that category sometimes is of sufficient special interest to justify a tabulation.

A third source of health sector financing is provided by both publicly - and privately-operated health insurance programs, especially by the governmentally-operated social security system. The health insurance programs cover employees of the modern commercial and manufacturing sectors and, in some cases, government workers. The social security system covers workers in either or both of the government and private sectors. These programs differ in their payment mechanisms. Health insurance usually is financed through voluntary personal contributions, although employers may also contribute to industrial plans. The social security system, on the other hand, receives mandatory employer and employee contributions and in some countries also receives a contribution from the government. Examples of health insurance programs in developing countries are: programs offered by private insurance companies; and group health insurance programs of individual federal agencies and of state and municipal governments.

A fourth source of health sector financing is special tax revenues and revenues from lotteries and betting. Special taxes include specific sales taxes (called excise taxes), typically levied on beer, liquor, and tobacco products, and user fees (other than fees for service), as well as the income from lotteries, games of chance, and betting on horse racing and other sports events. They might include general sales taxes, too. These revenues often represent significant sources of revenue for the health sector (especially in Latin America). They are typically collected and administered at state and local levels, whereas general revenues (above) most often consist of taxes collected and disbursed at the national level. Frequently, net receipts from these special sales taxes and gambling revenues are either wholly or in part designated for health. Comprehensive national information about them is difficult to obtain, because of wide variations in the types and levels of revenue among different states and municipalities, and also because state and local governments either fail to maintain accurate records or refuse access to the information. Nevertheless, these taxes and net revenues from gambling, together with the transfer of general revenues from the Ministry of Health, account for most of the public health services' budgets for state and municipal governments in some countries.

Charitable and private contributions, another source of financing, are not generally a major category of support for the overall health sector, although certain health sector institutions rely on them for most of their support (for example, the Red Cross, individual hospitals, and disaster relief organizations). Such aid can enter the health sector from abroad--no small matter to a poor country--as well as from within. Charitable contributions frequently include potentially high-yielding sources of support for certain institutions which could be easily overlooked in an accounting of health sector revenues. For example, it is not uncommon in Latin America for the buildings of many small health posts to be constructed with charitable contributions in the expectation that public health authorities would assume responsibility for their operating costs. Another example is that of a private foundation providing all of the support for one or several community centers providing health services in low-income residential areas of a city. An additional type of private assistance is the company-run medical program. Many of these contributions are made in kind or by providing services, making it difficult to attribute cash values to them. The effort should be made, however, to avoid under-counting.

One of the most important areas of health sector financing is direct payments by recipients. This category of financing is also the most inclusive since virtually all households at some time make direct payments for the health services they receive, including care from traditional practitioners and systems. The direct payments include those for insurance coverage, medical care, drugs and medicine, and personal hygiene. For a fuller treatment of these payments, see below where direct payments are discussed as "household health expenditures."

In-kind contributions of goods and services can consist of self-help efforts at the household or community level, equipment and supplies donated through international organizations or directly by manufacturers, and the unpaid or discounted services of students and trainees provided as part of their training process. Self-help efforts can supply significant portions of the total investment costs of construction and maintenance of health and related facilities (including water supply systems), particularly in rural communities and in low-income urban areas. Contributions of equipment and supplies can provide significant proportions of total investment and operating costs. Volunteer labor may also represent a substantial proportion of the operating support of these facilities; a notable example is labor provided by members of religious orders working at lower than usual compensation in health facilities. Most of these contributions, however, cannot be readily quantified, with the possible exception of large donations of supplies or equipment and buildings. They constitute a useful source of revenue, but a difficult one to quantify and analyze.

There is no rigid international pattern linking particular types of revenue (or methods of financing) to specific subsectors or health programs. Nevertheless, there are some tendencies which have been pointed out by various observers. These might be placed in a matrix in order to describe sources of financing and to facilitate their analysis. A list of major sources of revenue and the subsector programs financed by them is presented below, as an illustration for possible guidance to those

studying health sector financing. This information is helpful in indicating past patterns of financing and in suggesting gaps to be closed for particular subsectors and programs.[9]

Major Sources of Revenue, and the Subsectors and Programs Financed by Them

Source of Revenue	Subsector or Program Financed by Source
General Revenues and Internal Deficit Financing	Public agencies (e.g., Ministry of Health). Special programs (e.g., immunization campaigns). Environmental sanitation projects. Decentralized organizations (selected).
External Assistance (Grants and Loans)	Special programs (e.g., food supplements, specific diseases). Public capital expenditures. Environmental sanitation projects (partial support).
Insurance Revenues	Social security. Programs for public and private employees.
Special Taxes and Revenues from Lotteries and Betting	Public agencies (at all levels)
Charitable and Private Contributions	Medical and environmental sanitation programs of: private agencies; companies; foundations.
Direct Payments by Recipients	Public and decentralized organizations. Private services and materials.
In-kind Contributions of Goods and Services	Any organization or program (especially public and charitable institutions and environmental sanitation projects).

2. Expenditures

In addition to examining the sources of income of the health sector, it is also useful to examine the expenditures of the health sector, since the financing (income) of services is closely related to their pattern of use (expenditures).

[9] One of several sources that have presented such a matrix is Pan American Health Organization, Financing of the Health Sector (Washington, D.C.: PAHO, Scientific Publication Number 208, 1970), pp. 10-11.

There probably are innumerable two-way relationships between sources and expenditures in that the type of expenditures partially determines the sources of support selected, while existing or potential sources might affect the volume and distribution of expenditures. The above matrix suggests some of these relationships.

a. Allocation (uses) of income by major categories of expenditures:

Health sector expenditures can be recorded for analysis using three main approaches. One is to present total health sector expenditures, divided into: a) all public organizations and entities; b) all mixed organizations; and c) selected private organizations. Within each of these categories, expenditures can be further subdivided into: a) expenditures by program (e.g., hospitalization, doctor contacts, cholera treatment) and b) those by type of expense (e.g., personnel, materials). (See Appendix A, Tables 6, 7, 8, 9, 10, and 11). The value of summing up expenditures by program is evident. A problem in this, however, might lie in the comparability of data from several organizations dealing with the same medical problem or activity or other programmatic unit. It might be that an analyst will choose to conduct a special sub-study to facilitate such summations for programs of highest priority. Totals by type of expense are less likely to cause difficulties, as accounting systems often are geared to them.

The second approach to expenditures (actually the first one to conduct) is to obtain them for selected organizations. The classification of organizations used in the tables for income applies to expenditures as well. (See Tables 1 and 2). Tabulations by organization or by program might indicate spending for specific groups of the population, such as disadvantaged urban slum dwellers or persons in certain rural areas. However, readily available data will not necessarily be so specific. An analyst who wishes to study the distribution of health services (evidenced by expenditures) among members of the population probably will need to add some details to the regular information system of this manual, even adding special tabulations for particular groups.

Another approach to studying health sector expenditures is to compare them to the gross domestic product of the country and to part or all of the governmental budget. (See Table 13). The best example of this third approach probably is a comparison over time of the Ministry of Health's expenditures with the gross domestic product. A different sort of comparative perspective, already suggested for income, is appropriate to expenditures, too; it applies to the distinction between budgeted and executed values. The latter are much better for use in analyses. (See Table 12).

b. Household health expenditures:

A major component of health sector expenditures consists of direct payments by individuals or households for health services, which are also a category of revenue sources for the sector. There are two alternative ways to break down household expenditures for analysis if there has been a household survey which included relevant questions, such as ones on income. The first way is by number and proportion of households that made personal health expenditures on various types of service or any at all; such spending would

be related to level of household income. It can be presented separately for the nation as a whole, for urban residents, and for rural households. (See Tables 14, 15, and 16).

Another way is to categorize the data in terms of personal health expenditures and the proportion of household income spent on various types of service, by level of household income. These data, too, can be arranged for the whole nation and for urban and rural households. (See Tables 17, 18, and 19).

The expenditures can be presented in both instances for specific services, such as drugs and medicines, physicians' (professional) services, environmental sanitation, and insurance coverage. The suggested system is flexible as to components and adaptable to graphical presentation, especially of trends. However, if consumer (household) survey information is not available and private spending figures are estimated from providers' data--such as sales or business income--certain important details will not be available; chief among these is household income.

3. Additional Data Needed for Some Analyses

Additional information is described below which might be used for financial analysis (when it can be collected--it is not always easy to obtain). None of this information would normally be gathered specifically for a health sector assessment. However, if developed by special studies, it can be incorporated very usefully into the financial analysis of the health sector. The analysis, in turn, might reveal other data gaps--for example, those relating to consumer expenditures--which will indicate the need for future special studies.

a. Access to health care:

Obviously, the accessibility of health care to various groups in the population will determine their effective coverage for services and will influence their use of them. A broad analysis of the health sector might relate access data to financial figures, such as expenditures. Therefore, a study might be expanded to obtain -- possibly from existing data--the following: a) location of medical care facilities and health providers; b) ratios of providers to population; c) other related information.[10]

b. Price and income elasticities of demand for health services:

The responsiveness of direct purchases of care to changes in consumers' incomes and in prices of services is of considerable importance in assessing equity (fairness) of the health system. The ratio which results from dividing the percentage change of health service price into the percentage change of quantity of health services demanded is called the "price elasticity of demand" for such services. A price elasticity of demand of one (or greater) indicates that a given percentage increase in price will

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[10] P. Pinstrup-Andersen, et al., "The Impact of Increasing Food Supply on Human Nutrition," American Journal of Agricultural Economics, Vol. 58, No. 2, May 1976, pp. 131-142.

result in an equal (or greater) percentage decrease in the quantity of health services demanded (that is, that demand for health services is quite responsive to price changes, or "elastic"). A price elasticity of demand or less than one indicates that a given percentage increase in price will result in a lesser percentage decrease in the quantity of health services demanded (that is, that demand for health services is relatively unresponsive to price changes, or "inelastic"). Generally, the demand for health in developing countries is price elastic, with a higher elasticity (responsiveness) for preventive than curative measures and for lower income groups. Such findings would have implications for financial policies to promote the purchase of preventive services and to encourage poor persons to use health care in general.

"Income elasticity of demand" is calculated by dividing a percentage change in income into the corresponding percentage change in the quantity of health services demanded. An income elasticity of one or greater indicates that a given percentage increase in income will result in an equal or greater increase in the quantity of health services demanded so that the demand for health services is relatively responsive to changes in income, or is "elastic"). An income elasticity of less than one indicates that a given percentage increase in income will result in a lesser percentage increase in the quantity of health services demanded (so that the demand for health services is relatively unresponsive to changes in income, or is "inelastic"). Generally, the demand for health services for low income groups in developing countries is elastic in relation to income. This situation indicates that consumer demand for health services rises faster than income. Thus, there is an opportunity to get people to pay higher fees for health services or to purchase more of them as their incomes rise. The importance of income subsidies to expanded use of services by poorer persons could be indicated by income elasticity estimates when they are available.

Some statistics which are readily available or might be generated from a health sector financing study can be used to calculate price and income elasticities of demand. The percentage change in the quantity of health services demanded, derived from consumer or provider information, is the numerator for both price and income elasticity of demand. Household expenditure data, providing expenditures for health service, by income group, can be used to estimate income elasticity of demand. In theory, time series data on national health expenditures and price indices for health services could be used to estimate price elasticity, but in practice the technology and income distribution changes occurring over time in developing countries weaken this possibility. Analysts and the policy-makers whom they advise must decide whether the returns to additional information will justify any extra efforts required to collect the needed data.[11]

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[11] A useful source for additional information on the elasticities of demand for health services in less-developed countries is: P.S. Heller, "A Model of the Demand for Medical and Health Services in West Malaysia" (Ann Arbor, Michigan: University of Michigan, Center for Research on Economic Development, Discussion Paper No. 62, October 1976).

c. Health service prices:

The prices of health care, and especially changes in price levels over time, can be used to adjust figures for sector income and expenditures to present a more realistic picutre. Often price indices will exist, though perhaps only for large urban areas. Their measurement and interpretation are subject to problems, but special tabulations of them could be used, at least for approximations.[12]

C. SOURCES OF DATA

There are several sources for the data described above. For data dealing with the government ministries, such as the Ministry of Health, the national government generally publishes consolidated budgets. These budgets may either individually include the required historical tables or, when taken as an historical series of documents, contain the data required to form the tables.

Data on semiautonomous public institutions and mixed institutions, such as the social security system, public lotteries, or the national cancer institutes, may be published in regular public reports, which include financial data. Such reports usually are obtainable through the institutions themselves. The Ministry of Health libraries or repositories may also provide an adequate source of information for many of these activities.

Some countries maintain standard national production accounts which should not be overlooked as sources of financial data. Since many of the data requirements to establish national accounts for the health sector are the same as envisioned in this approach, the material may be immediately applicable. Mutual cooperation with those responsible for national accounts may be in order.

If published sources are not available for either public or mixed organizations, or if their validity is in doubt, the required information may often be obtained directly from the institutions and/or from international or foreign sources (in the case of external aid). The United Nations system of Social and Demographic Statistics may be noted. Special preparation of such data by an institution may be a fairly costly and time-consuming process. Moreover, such data may not be accurate either in published or in ad hoc studies. Thus, several different estimates may be found for the same budget for the same year, depending on the sources of information, accounting definitions used, and other aspects of the collection procedure. The degree of accounting control and standardization of accounting practices found in well developed countries is not likely to exist in many of the developing countries, and rough estimating procedures must often be relief upon.

The most difficult organizations to study will probably be those public and private institutions which provide health services as a secondary activity and treat the services as worker benefits. Ministries of defense and education, mining concerns, and large agricultural organizations are examples of such entities, which may provide health services to thousands of individuals while protecting financial information for security, tax, or public relations purposes. Similarly, charities, religious groups, and

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[12] One example of such a tabulation is: "Financing the Health Sector of Guatemala" (footnote 3), Table 7, p. 66.

other private organizations may not provide financial data to outsiders or may not maintain adequate financial data for assessment purposes. Special efforts will be needed to persuade their officials to release private data for study purposes.

Fees for goods and services may be estimated from consumer expenditures or from sales data kept by the health agency or other providers. Since each source of information has obvious potential errors, it is most desirable to compare estimates made from both consumer expenditures and provider incomes--to the extent possible within the resource limitations of the sector assessment. As noted above, data on traditional services are not likely to be readily available from any source despite their obvious interest.

Sources for consumer expenditure data may include:

1) Health expenditure surveys, especially those sponsored by the Ministry of Health or other public health agencies, or by universities -- Unfortunately, these are more scarce than is desired.

2) Household general expenditure surveys -- Likely sponsors of these surveys are national statistical offices, the Ministry of Labor, or the central bank; surveys to measure cost of living indices may be a useful source for these data.

3) Special tax surveys.

4) Census data.

Provider income estimates raise sensitive issues, but might be less costly to obtain than consumer expenditure data. Some potential sources of data are:

1) Pharmaceutical market surveys conducted by either industrial or market research firms -- Since pharmaceutical import and production volumes are regularly available as trade statistics, a rough approximation of retail volume can be made by applying an estimated commercial markup in price to wholesale values.

2) Provider income surveys conducted by schools, by the Ministry of Education, the Ministry of Labor, or the Ministry of Foreign Relations (as part of data on brain drain or the value of service of emigrants, or such), or by associations of health professionals.

3) Income tax projections of various groups of the population, which may be derived from actual tax reporting of income.

4) Income for health service practitioners, which can be estimated from data on the income of persons of differing educational levels -- These data are often kept by the labor and education ministries to measure the investment value of education.

Available records from any of the above sources of information may show financing data based on monetary transactions. However, in many situations health services are provided largely through the donation of goods and services or through payments in kind. To avoid overlooking or underestimating such data, it would be desirable to

conduct interviews with officials of health service institutions at both the location of the service provided and the central office, and to structure the interviews to ascertain such non-monetary transfers. That information may prove to be the most difficult type to estimate, and the practicality of exerting the extra efforts necessary to obtain it at all will depend on the study. Also difficult--perhaps impossible--to obtain would be income data on traditional healers, especially if they are paid in kind.

To acquire the relevant data needed for an analysis of the financing of the health sector, it is necessary to know the financing mechanisms of the health sector. For public health institutions (including the semiautonomous, or mixed, agencies) many of these mechanisms will be described in public literature--particularly in enabling laws and decrees. However, interviews should be used to assure that the nominal mechanisms are in fact being implemented.

For fees for goods and services, donated services, payment in kind, and other financing mechanisms, field interviews of practitioners and officials of the various health institutions may be the best, or only, source. Special sources of data may exist for some specific institutions:

1) Credit unions or cooperative associations may provide generic information on health service financing by their constituent agencies (e.g., pharmacy cooperatives).

2) Industrial associations may provide information on model or typical worker health service financing plans for their members.

3) Insurance monitoring agencies or insurance corporation associations may provide information on private health insurance plans.

4) Professional or labor associations may provide information on financing of health plans for members.

5) Creditors may provide information on the extent and mechanisms of non-institutionalized debt financing for health services. (For example, the Government of the Dominican Republic used USAID financing to provide bank loans for private hospital construction, and thus information on debt financing of hospital capital investment in the private sector was centrally available).

Information on the incidence of taxes on the public may be available from the Ministry of Finance, the tax bureau, or from international financial institutions, such as the World Bank. Alternatively, other social service sectors--education, welfare, etc.--may have generated such data for comparable sector financing studies, and knowledgeable informants in these sectors, as well as in universities, should be consulted.

In essence, the description of the pattern of financing of health services will require some imaginative use of existing documentary sources and interviewing by the analyst. A great number of sources and recipients of health service financing will

usually exist in a nation--some of which will not be obvious to outsiders or even to many public health officials in the country. Estimates of the magnitude of financial flows, and the description of the overall ("macro") effects of the financial pattern, will not be much affected by omission of the more obscure financial mechanisms. On the other hand, the innovative planner may well find that novel mechanisms already in use will provide valuable natural pilot studies for financial reform. Similarly, a review of historical methods of financing health services may give both a view of the flexibility of the financing system and also clues for a return to once successful but now disused sources of finance.[13]

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[13] For one imaginative approach to estimating national health expenditures, based on various types of data sources, see: "Efficiency of the Guatemalan Health Sector," Annex 5.10 to F.W. Schieck, et al. (eds.), Health Sector Assessment: Guatemala (Guatemala City: USAID Mission, November 1977), pp. 35-39.

CHAPTER IV

EVALUATING THE DATA ON HEALTH SECTOR FINANCING

An appraisal of the various methods used by a country at the national and local levels to finance its health services requires a basis for judgment, or a set of criteria. In principle, the same approach should be applied to evaluate expenditures or the performance of the health delivery system, but they are not the objects of attention here. While some criteria may be less controversial than others, all are to some extent arbitrary and few--if any--can be scientifically verified. For example, almost everyone would agree that a method or source of finance should be fair or equitable, but the appropriate measure and degree of equity are value judgments on which reasonable persons may differ.

It is not the job of those conducting the study to set national goals. However, they should attempt to identify them and to derive from them the evaluative criteria to be used for appraisal purposes. Naturally, the standards derived will vary among countries. Having specified their criteria, analysts can proceed to apply them in order to judge the current revenue sources' consistency with national goals. Recommendations may follow, especially where inconsistency is found or where a particular means of finance is deficient by any set of standards.

The criteria that appear most likely to be important fall into four categories: 1) Equity effects of a financing source--i.e., is the burden of financing borne fairly? 2) Efficiency aspects of a financing method--i.e., how much is collected and at what cost? 3) Effects of a method upon the performance of health service delivery units--i.e., how does the source of financing affect the operation of the health sector? 4) Macroeconomic (or aggregative) effects of financing--i.e., how does financing affect the overall economy?

A. IS THE BURDEN BORNE FAIRLY?

The methods of financing health care vary greatly in their impact upon those providing the funds. There are at least two well-recognized concepts of equity (fairness) which can be applied to an appraisal of the effects of a method of financing. These concepts are horizontal and vertical equity.

Horizontal equity is achieved when all persons at the same level of income (regardless of the source of income or manner--within limits--of using it) contribute similar amounts. Thus, a source of revenue, such as a special tax on wealth, which bears more heavily on persons with certain sources of income than on those with other sources, could be considered inequitable, other factors being equal. Also, a method whose burden is felt much more by some persons than by others of identical status would be inequitable; an exmple would be an excise tax on a product purchased more by some groups than by others.

A subcategory of horizontal equity is equity of risk sharing. This is concerned with the financing of the costs of treatment for a catastrophic illness or other

health problem giving rise to major expense. In some financing systems the individual affected pays all or most of the cost of such a major health problem. In other systems, persons at risk for such statistically unlikely events use insurance to share the risk. Since people are willing to pay a premium to buy the insurance, reducing the probability of very large expenses appears to have value to the consumer.

Vertical equity requires that the burden be borne in accordance with ability to pay, that is, there should be larger payments (maybe even more than proportionately larger ones) by higher income than lower income persons. This criterion probably is violated when financing relies upon a lottery or direct personal expenditures, two common means of health financing, because those sources come disproportionately from low-income people. Of course, an equitable method of raising revenue might be deficient in one of the other grounds to be specified below.

This manual does not cover another aspect of equity which some analysts might include in their work: the equity implications of the benefits of receiving (or not receiving) health care--important to a broad evaluation of the sector. The omission of it here is based on an aim of concentrating on sector finance, especially on sources of support for the sector. Those wishing to conduct broader appraisals that include benefits--and the equity of their distribution--will find other guides to such work.[14] The comparison of the burden borne by specific population groups for financing health services with the benefits they obtain would be important in terms of both equity and efficiency. Equity of distribution assumes not that the cost-benefit ratio will be uniform over all groups but that the variation among groups will be judged "fair" according to the countries' social and cultural values. At the same time, benefits in relation to costs have implications for the overall efficiency of the health system.

Financing should also be successful at "capturing" the benefits of health services rendered. For example, comparing individual fee-for-service to community tax financing for immunization services, one might conclude that the first often does not capture the benefits adequately. Thus, if 50% of the population pays out-of-pocket for immunization, the remaining 50% may benefit more by enjoying the reduced community level of disease without the discomfort of immunization reaction. A community tax in which all pay equally for the reduced community prevalence of disease does not share this defect. Perhaps more important, if the financing does not adequately capture the benefits of the activity, there is a tendency for the community to spend less than is economically justified for the health service. The term "public goods" is applied to those activities that should be publicly financed in order to avoid inefficiently large or small expenditures that would occur through fee-for-service mechanisms.

B. HOW MUCH IS COLLECTED AND AT WHAT COST?

There are at least six different but complementary sets of criteria for assessing a financing method in terms of its return or inherent efficiency: 1) gross yield of the method; 2) its net yield; 3) its impact on personal behavior and health; 4) satisfaction of its payers; 5) its political acceptability; and 6) avoidance of dependence on temporary sources.

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[14] See, for example: A. Berry and M. Urrutia, Income Distribution in Colombia (New Haven: Yale University Press, 1976), pp. 158-174; C.E. McClure, Jr., Taxation and the Urban Poor in Developing Countries (Washington: World Bank, Staff Working Paper No. 222, December 1975), pp. 26-29.

The gross yield of a method encompasses several simple but very important characteristics, such as the overall capacity of the method to yield gross revenue, the stability of its yield over time (with changing conditions), its elasticity or responsiveness to economic growth or decline, and the predictability of the method in its timing and amount of yield.

The net yield of a method excludes the costs of implementing and administering it, such as the expenses of collecting a tax. Net yield, therefore, is gross yield minus costs of administration. It indicates, in a sense, the efficiency of raising funds.

Another cost (or, depending on its impact, perhaps a benefit) of a financing method is its effect on personal behavior and ultimately on health status. An example of this (in the potential benefit sense) is the impact of an excise tax on the activity it is intended to discourage. Thus, the financing of health services through taxes on sales of alcohol and tobacco is thought by some to have the twofold impact of providing health services and reducing the ill health resulting from alcoholism and smoking. Clearly, studies of the effects of alcoholism or the like upon health status go beyond the analysis of financing methods.*

A different type of cost method is the satisfaction (or dissatisfaction) of its payers. A common example of a method which is thought to provide high satisfaction, aside from any health benefits deriving from the programs supported by it, is a lottery. There is no doubt of the pertinency of the satisfaction standard to an assessment of methods of financing. Conceptually it is distinguishable from other criteria, such as equity and yield. Nevertheless, in practice it is very difficult to estimate without costly special purpose surveys--except indirectly through rough proxies like political tests, votes for representatives, and occasional opinion polls.

The practicality (or impracticality) of estimating payer satisfaction points to a broader criterion with which to analyze a financing method. Political considerations concerning a method, such as the acceptability of a method or the resistance to it, either from the general population or from specific groups of people, obviously are crucial to its usefulness (even to its existence); they could be considered a cost of using a particular method. This political criterion generally goes beyond payers in its scope, embracing all important participants in the political process. As in the case of user satisfaction, political acceptability poses some difficulty as an operational criterion. It is doubtful that analysts should expect to apply this principle in a health sector assessment emphasizing economic considerations when appraising specific methods of finance. However, it would be wise for the analyst to consult with experts sensitive to political currents for advice on the political acceptability of a financing measure. Certainly those who make the crucial decisions on sector finance will take those considerations into account.

A sixth, and final, criterion within the category of efficiency aspects of a financing method (with emphasis on the costs of raising revenues) is dependence. A financing method creates a dependency if it encourages or develops a reliance by the

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* An estimate of the price elasticity of demand for the product being excised is an important indicator of how high the tax must be to affect consumption of the product. Elasticity also will have implications for the yield of such a tax.

recipients of services on sources of funds from other persons. It is generally considered to be pejorative, as when one nation becomes dependent on foreign-based multinational corporations in health-related industries due to a reliance on foreign private investment capital. Dependence may represent the reverse of a desirable goal as in the case of the dependence of the poor on the more affluent for the financing of their health services through the progressive income tax. The valuation of cases of dependency is important so that planners will avoid naively recommending something that cannot be sustained, such as temporary sources of financing. Situations of dependency are created most frequently by public and decentralized organizations which find temporary domestic tax sources or external assistance for their programs.

C. HOW DOES A PARTICULAR SOURCE AFFECT THE OPERATION OF THE HEALTH SECTOR?

In addition to the equity and efficiency aspects described above, a particular means of financing may also impact on the pattern of use of health services, on the manner of providing them, and on the type of services provided. Logic and experience suggest that the method of financing health services affects the volume and type of services used. For example, progressive income taxes may allow a greater use of publicly financed health services by low-income persons than would otherwise occur, while self-payment (direct private expenditure) will have the opposite effect on the utilization of medical care by the poor. Also, when care has been financed by insurance payments, it has been observed that the insured use health services at higher rates than uninsured people do. A particular means of financing may affect also the timing of health services use. Direct payments may result in a postponement of preventive health services by certain groups, since such services are considered less urgent despite their greater long-term importance.

The method of financing can also affect the provision of health services. An illustration of this is the displacement effect--that is, the replacement of one source of financing by another rather than an augmentation of the original source by the newer source. For example, charitable contributions may lead to diminished public support in a certain area, resulting in little or no net impact on health services, while an equivalent public expenditure might result in an increase in health services.

A full view of the effects of funding on the operation of the health sector should include an examination of the differential effects of various provider compensation techniques on the types and volume of services used. The best known illustration probably is the impact of capitation or salaried arrangements for the payment of physicians. With physician payment in the form of salary or on a capitation basis (a fixed fee to the physician per patient covered rather than per service provided), the use of preventive and other ambulatory health services increases while the use of hospitalization decreases--at least in prepaid group practices. Another example would be prospectively-determined rates for hospital reimbursement by third parties. Data availability for application of these bases of appraisal is likely to limit studies in developing countries.

D. HOW DOES FINANCING AFFECT THE OVERALL ECONOMY?

Although a full assessment of the effects of health financing on the overall economy is generally beyond the scope of a sector analysis, consideration of some of those effects could be valuable and might be feasible, especially in a large study.

One effect of considerable significance is the impact of any given level of health service funding on the general level of prices, that is, on inflation. The relationship between health expenditures and revenue, as well as the sources of that revenue, can affect prices. A potentially inflationary method would be the financing of health care through government borrowing, especially from foreign funds. Loans may help to raise nominal allocations, but real increases may lag behind as salaries are raised and equipment and supply costs increase, especially if the loans come from outside the country. When loans are used to bring about health service expansion in a relatively short time span, the pressure of increased demand on scarce resources (particularly health services personnel) may drive up medical prices.

A specific source of financing may affect incentives and effort expended for national production and economic growth. Some writers believe, for example, that income taxes restrict effort--especially that of persons in high positions who might be heavily taxed--thus diminishing output and the growth rate. Taxes on capital would have different effects than those on labor. Adequate testing of the empirical validity of these hypotheses, however, would be beyond the scope of a health sector analysis.

A final overall economic impact of health sector financing might be called "affordability," or the capacity of a nation to pay for health services. There is no single concept of affordability. Rather it is a flexible idea related to social values as well as to economic indicators. It can be connected to attempts to measure the total effort at health sector finance made by a nation, perhaps in comparison with the efforts of others, which would go beyond the analysis of specific sources. This attention might be disaggregated to consider effort or "affordability" of: specific sources; regional or local governmental activities; and individual families' expenditures.

CHAPTER V

PRESENTING AND USING THE RESULTS OF EVALUATIONS

After completing the evaluation of the existing pattern of health finance using the techniques described in this manual, the analyst will be prepared to make tentative judgments on the appropriateness of the current pattern and to discuss them with policy-makers. That pattern can be completely accepted or rejected in whole or in part, of course. If at least part of it is acceptable to those who make financial decisions, the analyst may be asked to examine alternative sources of financing, which would be evaluated in accordance with the principles described in this manual. Finally, recommendations might be made based on the findings and judgments of the evaluation. If any changes are proposed, the procedures for accomplishing them also might be summarized in a report to the appropriate audience, which should include the persons who will make the crucial decisions on adopting them. Health administrators who would have to implement any changes, or alternatively deal with the same funding situation, also would be interested in the results.

Analytic conclusions regarding the health sector, or one of its subsectors, will fall into two broad classes: 1) the status of expenditures and changes recommended in them; and 2) the pattern of sources of income and changes in them. In addition, the results of descriptions and assessments of finance might indicate the need for other information required for future policy decisions. Examples of those could include more detailed breakdowns of the uses of funds by geographic area or by population group and better estimates of the distribution of the burden of particular revenue sources.[15]

Illustrations of possible recommendations on expenditures, such as bringing actual spending into closer conformity with appropriations and devoting additional resources to certain underserved groups in the population or to specific programs of preventive care, show the obvious potential importance of evaluations to national policy makers--among them, budgeting officials--and to high level administrators. Analytic results concerning sources of income for health could include the following: arguments over reorienting governmental funding from one tax to another--for example, from popular but regressive indirect taxes to direct ones; considerations in modifying reliance on external assistance; and comparisons for judging the relative importance of private and public measures to produce revenue.[16]

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[15] For an example of a study containing conclusions with policy recommendations and suggestions of new data collections, see: "Financing the Health Sector of Guatemala" (footnote 3).

[16] These results and their related policy steps are found not only in the Guatemalan report cited before but also (in summary form) in: World Health Organization, Manual of Surveys of Health Financing (footnote 5), pp. 31-32 and Appendix 10.

In principle the presentation of evaluative results and recommendations will be similar for subsectors or specific programs and entire health sector assessments. Of course, the range of problems and data for analyses and recommendations will be wider for a full assessment. The important point to be kept in mind in planning, executing, and reporting evaluations is that health financing policies can be positively affected by thorough descriptions and careful interpretations with thoughtful recommendations. Such work will be essential for closing the gap between the health resources needed and those available in developing countries.

APPENDIX A

MODEL TABLES FOR DATA COLLECTION

List of Tables:

1 Income Received, by Source of Income (including Transfers), and Expenditures Made, by Program (or by Type of Expense), By Individual Organization Which Only Collects & Transmits Funds: [Organization]

2 Income Received, by Source of Income (including Transfers), and Expenditures Made, by Program (or by Type of Expense), By Individual Organization Which Provides Health Services and Might Raise Part of Its Own Funds: [Organization]

3 Summary of Income Received, by Source of Income, by All Public Health Service Organizations

4 Summary of Income Received, by Source of Income, by All Mixed Health Service Organizations

5 Summary of Income Received, by Source of Income, by Selected Private Health Service Organizations

6 Summary of Expenditures Made, by Program, by All Public Health Service Organizations

7 Summary of Expenditures Made, by Type of Expense, by All Public Health Service Organizations

8 Summary of Expenditures Made, by Program, by All Mixed Health Service Organizations

9 Summary of Expenditures Made, by Type of Expense, by All Mixed Health Service Organizations

10 Summary of Expenditures Made, by Program, by Selected Private Health Service Organizations

11 Summary of Expenditures Made, by Type of Expense, by Selected Private Health Service Organizations

12 Comparison of Income and Expenditures, Budgeted versus Actually Executed, in Selected Years For: [Organization]

Note:
For Tables 1-13, each column represents a different year.
For Tables 14-19, the year selected is indicated (inserted) in the title.

List of Tables: (Cont'd)

13 Comparison with Gross Domestic Product (or Gross National Product) and with Governmental Budget Totals of Health Expenditures Made by the Ministry of Health and the Total of All Public and Mixed Health Service Organizations

14 Number and Proportion of Households That Made Any Direct Health Expenditures on Various Types of Service in [Period] , by Level of Household Income: Total Nation

15 Number and Proportion of Households That Made Any Direct Health Expenditures on Various Types of Service in [Period], by Level of Household Income: Urban Residents

16 Number and Proportion of Households That Made Any Direct Health Expenditures on Various Types of Service in [Period], by Level of Household Income: Rural Residents

17 Direct Health Expenditures and Proportion of Household Income Used for Expenditures on Various Types of Service in [Period] , by Level of Household Income: Total Nation

18 Direct Health Expendtures and Proportion of Household Income Used for Expenditures on Various Types of Service in [Period], by Level of Household Income: Urban Residents

19 Direct Health Expenditures and Proportion of Household Income Used for Expenditures on Various Types of Service in [Period], by Level of Household Income: Rural Residents

Country _____

Table 1

Income Received, by Source of Income (including Transfers),
and Expenditures Made, by Program (or by Type of Expense),
By Individual Organization Which Only Collects & Transmits Funds:

[Organization] _____

	$	%	$	%	$	%
Source of Income:						
Expenditures:						
SOURCE (For table):						

Country _____

Table 2

Income Received, by Source of Income (including Transfers), and Expenditures Made, by Program (or by Type of Expense) By Individual Organization Which Provides Health Services and Might Raise Part of Its Own Funds:

[Organization] _____

	$	%	$	%	$	%
Source of Income:						
Expenditure:						
SOURCE (for table):						

Country _____

Table 3

Summary of Income Received, by Source of Income,

by All Public Health Service Organizations

Source of Income	$	%	$	%	$	%
TOTAL						

Source:

Country _____

Table 4

Summary of Income Received, by Source of Income,

by All Mixed Health Service Orgarizations

Source of Income	$	%	$	%	$	%
TOTAL						

Source:

Country _____

Table 5

Summary of Income Received by, Source of Income,

By Selected Private Health Service Organizations

Source of Income	$	%	$	%	$	%
TOTAL						

Source:

Country _____

Table 6

Summary of Expenditures Made, by Program,

by All Public Health Service Organizations

Program	$	%	$	%	$	%
TOTAL						

Source:

12

Country _____

Table 7

Summary of Expenditures Made, by Type of Expense,

by All Public Health Service Organizations

Type of Expense	$	%	$	%	$	%
TOTAL						

Source:

Country _____

Table 8

Summary of Expenditures Made, by Program,

by All Mixed Health Service Organizations

Program	$	%	$	%	$	%
TOTAL						

Source:

Table 9

Summary of Expenditures Made, by Type of Expense,

by All Mixed Health Service Organizations

Type of Expense	$	%	$	%	$	%
TOTAL						

Source:

Country _____

Table 10

Summary of Expenditures Made, by Program,

by Selected Private Health Service Organizations

Program	$	%	$	%	$	%
TOTAL						

Source:

Country _____

Table 11

Summary of Expenditures Made, by Type of Expense,
by Selected Private Health Service Organizations

Type of Expense	$	%	$	%	$	%
TOTAL						

Source:

Country _____

Table 12

Comparison of Income and Expenditures Budgeted versus Actually Executed, in Selected Years

for: _____ [Organization]

	19			19		
	Budgeted $	Received $	Received/ Budgeted %	Budgeted $	Received $	Received/ Budgeted %
Source of Income:						
Expenditures:						
Source:						

Country _____

Table 13

Comparison with Gross Domestic Product (or Gross National Product)
and with Governmental Budget Totals
of Health Expenditures Made by the Ministry of Health
and the Total of All Public and
Mixed Health Service Organizations

Expenditures & Other Totals	$	%	$	%	$	%
Gross Domestic Product		--		--		--
Ministry of Health						
Total Public & Mixed						
Consolidated Nat'l Budget		--		--		--
Ministry of Health						
Total Public & Mixed						
Central Gov't. Budget		--		--		--
Ministry of Health						
Total Public & Mixed						
Source:						

Country _____

Table 14

Number and Proportion of Households That Made Any Direct Health Expenditures on Various Types of Service in _____, [Period] by Level of Household Income: Total Nation

Household Income per Period $	Number of Households	Households With any Health Expen.		Households with Expends. on Drugs		Households with Expends. on Prof. Serv.	
		Number	%	Number	%	Number	%
ALL							

Source:

Country _____

Table 15

Number and Proportion of Households That Made Any Direct Health Expenditures on Various Types of Service in _____, [Period] by Level of Household Income: Urban Residents

Household Income per Period $	Number of Households	Households with any Health Expen		Households with Expends. on Drugs		Households with Expends. on Prof. Serv.	
		Number	%	Number	%	Number	%
ALL							

Source:

Country _____

Table 16

Number and Proportion of Households That Made Any Direct Health Expenditures on Various Types of Service in _____, [Period] by Level of Household Income: Rural Residents

Household Income per Period	Number of Households	Households with any Health Expen		Households with Expends. on Drugs		Households with Expends. on Prof. Serv.	
		Number	%	Number	%	Number	%
ALL							

Source:

Country _____

Table 17

Direct Health Expenditures and Proportion of Household Income Used for Expenditures on Various Types of Service in _____ [Period], by Level of Household Income: Total Nation

Household Income per Period $	Total Income $	Expenditures in Total $	Expenditures in Total % of Income	Expenditures on Drugs $	Expenditures on Drugs % of Income	Expenditures on Prof. Serv. $	Expenditures on Prof. Serv. % of Income
ALL							

Source:

Country _____

Table 18

Direct Health Expenditures and Proportion of Household Income Used for Expenditures on Various Types of Service in _____ [Period] by Level of Household Income: Urban Residents

Household Income per Period $	Total Income $	Expenditures in Total $	Expenditures in Total % of Income	Expenditures on Drugs $	Expenditures on Drugs % of Income	Expenditures on Prof. Serv. $	Expenditures on Prof. Serv. % of Income
ALL							

Source:

Country _____

Table 19

Direct Health Expenditures and Proportion of Household Income Used for Expenditures on Various Types of Service in [Period], by Level of Household Income: Rural Residents

Household Income per Period $	Total Income $	Expenditures in Total $	Expenditures in Total % of Income	Expenditures on Drugs $	Expenditures on Drugs % of Income	Expenditures on Prof. Serv. $	Expenditures on Prof. Serv. % of Income
ALL							

Source:

APPENDIX B

SOURCES OF HEALTH SERVICE FINANCING

A. MAJOR SOURCES

1. General Public Revenues

a. Taxes collected by the central government, or other levels of government, to finance its activities and programs:

(1) income taxes - taxes assessed on the current year's earnings of an individual (i.e., wages, salaries, dividends, interest).

(2) profit taxes - taxes levied on the profits of businesses.

b. Taxes levied on foreign commerce:

(1) import taxes - taxes imposed on goods imported into the country.

(2) export taxes - taxes imposed on products exported from the country.

2. Internal Deficit Financing - borrowing money within the country, usually through the issuance of bonds, to cover a difference between expenditures and revenues.

3. External Assistance - loans and grants, either in money or in goods and services, made to the recipient government or its populace by foreign governments, institutions, international agencies, or persons.

4. Insurance Revenues - payments made by employees and employers (usually through payroll taxes) and personal contributions for health insurance programs. The health insurance programs may be either public or private.

5. Special Taxes, and Revenues from Lotteries and Betting:

a. Taxes levied on specific products or activities and/or used to finance specific governmental programs:

(1) sales taxes - taxes levied on consumer purchases generally dedicated to a specific use (e.g., financing local governments) but also used on occasion for general revenues.

(2) property taxes - taxes on real estate (homes, buildings, land) and personal property (furniture, clothing, jewelry). Usually dedicated to a specific use (e.g., financing education) but also used for general revenue.

(3) excise taxes - taxes levied on the manufacture, sale, or consumption of a commodity within the country (e.g., beer tax, alcohol tax, tobacco tax).

(4) user taxes - taxes imposed on the consumption or use of an activity (e.g., amusement tax for theaters).

b. Revenues from Lotteries and Betting:

(1) net proceeds of lotteries -- proceeds from an event or activity in which prizes are given to winners drawn by lot from all purchasers of chances. Proceeds from lotteries may be wholly or partially designated for the health sector.

(2) gambling taxes and taxes on sporting events -- taxes on the proceeds of legal gambling activities usually associated with sporting events (e.g., gambling on horse races).

6. Charitable and Private Contributions - health services or monetary support donated by charitable organizations (e.g., Red Cross), foundations, or persons and care provided by company medical programs.

7. Direct Payments by Recipients - payments by recipients (individuals and households) for medical services, health care, medicines, etc., to providers of these services (made from personal funds of, or transfers to, the recipients).

8. In-kind Contributions - contributions of goods and services rather than money to the health sector (e.g., providing volunteer or lower than cost labor or equipment and supplies).

B. OTHER SOURCES

1. Investment of Private Capital - the financing of a capital asset, such as a hospital or a piece of equipment, through private, usually profit-seeking, sources of financing.

2. Valorization Taxes - a form of property taxes levied on the occasion of some public investment which increases the value of adjacent or surrounding property. Such taxes are often used for aquaducts or sewers but in theory could be used for hospitals, water treatment plants, etc.

3. Endowment Income - capital, usually donated, invested by an institution from which the institution receives a fixed income by law or by contract.

4. Fines - monetary penalties assessed against someone violating a law or regulation. Fines are an important source of financing for environmental sanitation services.

5. Rents - payments for the use of property or equipment.

6. Subsidies - a grant given by the government to encourage an activity thought to be of value (e.g., food stamps to subsidize low income peoples' purchases of food).

7. Tax Expenditures - a reduction in tax revenues resulting from a tax deduction for an activity or expenditure thought to be of value. For example, charitable contributions by an individual often result in a reduction of his taxes, and consequently reduce total tax revenues received. Thus, the charitable contribution is partially financed by the government to the extent it loses tax revenues.

8. Cooperative Financing - the formation of a cooperative (an organization owned by and operated for the benefit of those using its services) to finance medical services, pharmaceutical purchases, etc.

9. Miscellaneous User Charges - fees and charges used to collect income from the users of a service. For example, water and sewer services are financed by special mechanisms such as metering, connection charges, fixed monthly charges, user specific rates, etc.

10. Transfers - the passing of resources from one part of government to another. Transfers of funds can be between different parts of one level of government (e.g., from the Treasury to the Ministry of Health, both on the national level). Although transfers of funds are not the ultimate source of revenues, they can appear as sources to the health sector or its subdivisions.

11. Migration of Highly Trained Professionals - or "brain drain" may be the equivalent of a capital transfer in that a country gains (or loses) the value of the investment in the person's training. (Similarly, cost-free use of a patent license represents an equivalent income in the form of deferred research and development costs).

12. Expropriation - the seizure of property of an individual or organization by the government.

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